The Bulletins are published weekly throughout the school year (thirty issues) to aid teachers and students in keeping abreast of geography behind current news events.

GEOGRAPHIC SCHOOL BULLETINS

of

The National Geographic Society

WASHINGTON 6, D. C.

The National Geographic Society is a non-profit educational and scientific Society established for the increase of geographic knowledge and its popular diffusion.

VOLUME XXX — February 11, 1952 — NUMBER 18

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WILLARD R. CULVER

ALWAYS A SUBJECT FOR REVERENCE, LINCOLN RECEIVES INCREASED HOMAGE ON HIS BIRTHDAY

Visitors commune with the martyred President in his Washington, D. C., memorial, as teachers and pupils over the nation present special classroom material on Honest Abe. The words above his sculptured head still ring true: In this temple as in the hearts of the people for whom he saved the Union the memory of Abraham Lincoln is enshrined forever.

Bulletin No. 1, February 11, 1952

Midwest Lincoln Land Grows as Travel Lure

"THE site of Abe's cabin is right across the road," a storekeeper in the town of Lincoln City, Indiana, told a National Geographic Society staff writer when he recently toured the Midwest's "Lincoln Land."

"Every year there's more people," the storekeeper said. "They come from farther away, and what they see they seem to appreciate more."

Peering into the Past

Following the Abraham Lincoln migration trail from Hodgenville, Kentucky, to New Salem, Illinois, the Geographic man was one of thousands of reverent sight-seers at Lincoln shrines. Between 1946 and 1951, the number of visitors to these landmarks had nearly tripled, according to national and state estimates.

"We were all peering into the past, trying to imagine what it was like for the 16th president in his early years."

Inside the granite memorial near Hodgenville which houses the traditional birthplace cabin, a mother held three preschool children enthralled, reading to them about coonskin caps, cornshuck mattresses, and loft bunks where frontier children slept above flickering fireplaces.

From age two to seven, the boy Lincoln lived on Kentucky's Knob Creek, in a one-room cabin about 10 miles north of his birthplace. Knob Creek was the spot Lincoln remembered for his close association with his mother, Nancy Hanks Lincoln. She died at 35, after the family moved across the Ohio River to the hills of southern Indiana. Her grave and memorial at Lincoln City is a hallowed place in the Hoosier State.

Abe lived in Indiana for 14 years, from age seven to 21. There he educated himself before the fireplace (illustration, next page), took his first jobs, and grew to a height of six feet, four inches.

Entered Illinois at 21

At near-by Dale, Indiana, an ardent Lincoln student—83 years old, and the grandson of a neighbor of the Lincolns—showed the magazine writer how to use the maul and froe, tools with which Abe and other pioneers slashed the thick shinglelike slabs of wood for cabin roofs.

When Lincoln was 21 he crossed the Wabash and encountered the first level land he had ever traveled over—the fertile prairies of Illinois. At two sites there he helped his father build log cabins. Then he struck out for himself, settling in the village of New Salem, 20 miles northwest of Springfield, Illinois.

Lincoln received his first popular notice in New Salem. He was elected captain of a volunteer company in the Black Hawk War, and later was sent to the state legislature at Vandalia. There he led the bloc that succeeded in moving the Illinois capital to Springfield, the county seat of his home county. Afterward he moved to the new capital, and New Salem literally disappeared, causing historians to wonder if it had been "a providential place designed by a 'divinity that shapes our ends' to at-

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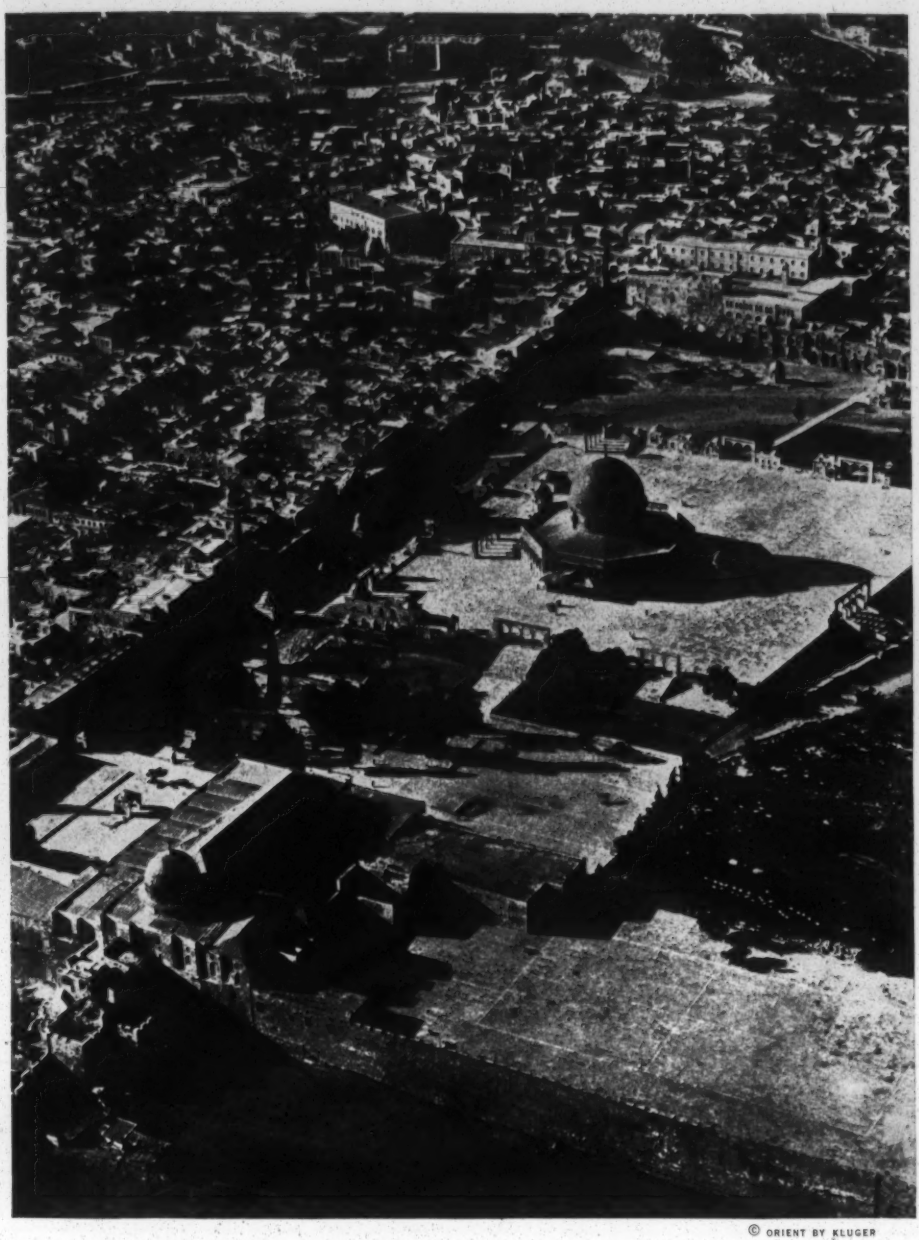

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KING SOLOMON'S TEMPLE ONCE COVERED THIS AREA ATOP JERUSALEM'S MOUNT MORIAH

The two countries Jordan and Israel divide modern Jerusalem; none of Israel's portion shows here. This part of the old city is holy to Jew, Christian, and Moslem. The central domed building was mistaken by Crusaders for the Temple. Actually it is the Dome of the Rock, a Mohammedan mosque built long centuries after the Jewish structure crumbled. Behind and below the left end of the long arcade lies the Wailing Wall, whose stones are a remnant of Solomon's Temple (Bulletin No. 3).

Bulletin No. 2, February 11, 1952

Oslo Plays Host to Winter Olympics

OSLO, capital of Norway, will take on an extra role as capital of the sports world when the Winter Olympic Games are held there from February 14 to 25.

Norway's largest city, with a population of about 435,000, will be visited by the greatest number of competitors in the history of the Winter Olympics. Between 1,000 and 1,200 athletes are expected to take part in the events. In addition, there will be an equal number of officials, coaches, and trainers, plus some 500 sports writers and thousands of spectators.

Gulf Stream Moderates Oslo's Weather

Almost all the games will be held within the city limits—even the ski jumping on the world-famous Holmenkollen incline. The only events to take place outside the city of Oslo are the downhill and giant slalom ski races. Norefjell Mountain, near Lake Kroderen, will be the scene of these activities.

Oslo stands at parallel 60, the same latitude as Seward, Alaska, and the southern tip of Greenland. The city expects to have plenty of snow and ice for the games, even though its winters are moderated somewhat by the Gulf Stream. This warm current keeps the fine deep-water harbor on Oslo Fjord open all winter.

For a time, early in the season, the weather was so unusually mild that it was feared the bobsled run would not be in condition for the games. Snow was brought from other areas and the run was packed to assure the Olympians a slippery pathway for their contests. The weather has since become more "normal."

Jordan Amfi, Oslo's downtown outdoor skating rink, has facilities for artificial ice, but normal winter conditions there are such that nature usually furnishes a fine glassy floor.

Few Ancient Landmarks Remain

Skis and sleds are used not only for sport but for such necessary transport as going to business, market, and school (illustration, next page). "Winter in Norway," it is said "lasts nine months. And the remaining three months are less favorable for skiing and skating."

The Olympic contestants, officials, and spectators will find Oslo a city with few of the antique buildings and ancient landmarks such as abound in other historic European cities. Yet Oslo was founded more than 900 years ago by King Harald Haardraade (Harald III, the "ruthless.").

For centuries, most of Oslo's buildings were made of timber from Norway's abundant forests. These perishable structures were leveled by several disastrous fires in the Middle Ages, and, in consequence, Oslo has been rebuilt so often that it is in effect a modern city. One writer mentions the "almost belligerent modernity" of its buildings and statues.

Classic and Renaissance architecture has been discarded. Oslo's many new structures show the planes, angles, and functional planning of modern design. One outstanding example is the new city hall. Built of reddish-

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tract a wandering young rail splitter to settle there in order that he might find himself." Many of its log buildings were dismantled and carried to Petersburg, two miles north.

Today the little log-cabin village of New Salem again stands as it did 120 years ago. Its restoration is as complete and authentic as any in the Middle West.

After Lincoln's assassination in Washington, his body was brought back to Springfield for burial. Illinois raised an impressive granite tomb over the grave. Later the nation erected the often-visited Lincoln Memorial in Washington, D.C. (illustration, cover).

NOTE: Regions associated with Abraham Lincoln may be located on the National Geographic Society's maps of the Southeastern United States, and North Central United States. Write the Society's headquarters, Washington 6, D. C., for a map price list.

For additional information, see "Vacation Tour Through Lincoln Land," in the *National Geographic Magazine* for February, 1952; "Kentucky, Boone's Great Meadow," July, 1942; "Indiana Journey," September, 1936; and "A Patriotic Pilgrimage to Eastern National Parks," June, 1934 (out of print; refer to your library). *(Back issues of the Magazine may be obtained from the Society's headquarters at 60¢ a copy, 1946 to date; $1.00, 1930-1945; and $2.00, 1912-1929. Earlier issues, when available, at varied prices.)*

RALPH GRAY

A YOUNG LINCOLN PILGRIM ACTS OUT ABE'S BOYHOOD TRICK OF FIRESIDE READING

This cabin at Rockport, Indiana, is a duplicate of the one which the Lincoln family inhabited for 14 years in the Hoosier State. Lacking lamp, Abe studied beside the blazing fire. He used a wooden shovel for arithmetic problems, scraping it clean when it became filled with figures.

Bulletin No. 3, February 11, 1952

Israel Adds Marble to Its Export List

THE young state of Israel, not yet four years old, is taking another step in its vigorous drive for self-sufficiency by exporting marble from quarries unused for almost 2,000 years. Sentimental demand for stone from the Holy Land is expected to account for most sales.

The first major shipment of Israeli marble, three tons for use in a new Brooklyn synagogue, arrived recently in New York in the Israeli-flag freighter *Henrietta Szold.* Building stone thus is added to Israel's more important exports, which include citrus fruits, fruit concentrates, and other citrus by-products; wine and other farm yields; and such shop products as cut and polished diamonds, chemicals, and false teeth.

Land Lacks Iron and Coal

In addition, plans are considered to revive the once-flourishing trade in potash and bromine extracted from the waters of the Dead Sea. Intensive oil exploration is being conducted in areas which geologists consider exceptionally promising. Israel already has a modern oil refinery at Haifa.

Electric supply, quickly expanding, to some extent takes the place of coal, of which Israel has none. Also lacking is iron, which means that the new country's industry must pioneer in new directions.

Marble played an important part in building and construction in Biblical times, but it is not believed to have been exported in any quantity. Ancient man had, usually close at hand, plentiful supplies of building stone (illustration, next page).

Solomon's temple contained stone described as marble. King David, gathering the material for his son Solomon to use in the temple, said, in the First Book of Chronicles, that he had obtained "onyx stones, and stones to be set, and glistening stones, and of divers colors, and all manner of precious stones, and marble stones in abundance."

Most modern authorities believe, however, that the "marble" used in the temple was actually a glistening, soft white limestone, quarried near the Damascus gate of Jerusalem, rather than the metamorphosed, crystalline limestone that is marble by today's standards.

Herod's Temple Used Marble

In an early use of prefabricated-building technique, the temple stones were carefully cut and faced at the quarry before transport to the building site. Thus they could be fitted into place with a minimum of disturbance at the temple itself.

Herod the Great, immediate predecessor of the Herod who ruled in Jesus' time, used much marble in his ambitious reconstruction program in Jerusalem.

On the site of Solomon's temple (illustration, inside cover) Herod the Great built another and larger temple—the one from which Jesus drove the money changers. Herod also constructed other public buildings and an immense palace for himself.

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brown brick, the massive edifice is surmounted by two severely plain towers, somewhat resembling gigantic grain elevators.

Akershus castle, dating from 1300, is the only building to survive from Oslo's early days. Other relics of Norway's distant past are three Viking ships on display at the Folk Museum near the city.

Oslo has practically no slums. Careful city planning laid out wide streets on a rectangular-block plan and prevented growth of crowded areas.

The principal thoroughfare is Karl Johans Gate (street), named for a king whose statue gazes down its length. Norwegians say that Karl Johan Street has all the fine qualities a good street should have: "charm and dignity, grandeur and intimacy. It absorbs sunshine and reflects it; at the same time it is shady and fresh."

After their visit, Olympic athletes and spectators may well say the same of Norway's capital city.

NOTE: Oslo may be located on the Society's map of Europe and the Near East.

For further information, see "Norway Cracks Her Mountain Shell," in the *National Geographic Magazine* for August, 1948; "Norway, an Active Ally," March, 1943; "Country Life in Norway," April, 1939; and "Norway, A Land of Stern Reality," July, 1930; see also, in the GEOGRAPHIC SCHOOL BULLETINS, April 24, 1950, "Oslo, Norway Capital, Marks 900th Birthday."

A. B. WILSE

IN NORWAY, QUEEN OF WINTER-SPORTS AREAS, SCHOOLGIRLS DEMONSTRATE "SPARKSTOTTING"

This popular form of locomotion involves use of a seat on runners. The sled provides room for one passenger, besides the operator whose one-footed push speeds the vehicle over snowy surfaces. Sleds turn the trip to school into a sports event, costumed by bright home-knit caps and sweaters.

TEACHERS! Do you leaf aimlessly through your *National Geographic Magazines*, looking for that article on Greece, those color pictures of Guatemalan costumes? Save time. Order the Cumulative Index, 1899-1950 inclusive. $2.50.

Bulletin No. 4, February 11, 1952

New Gadgets, Methods, Boom Air Photography

HOW good can aerial photography get? To say that "the sky's the limit" is to underestimate the new tricks possible with cloud-piercing rockets and all the new gadgetry and techniques of this young and growing science.

Cameras built in rockets, soaring 60 and 70 miles up and moving more than 2,500 miles an hour, have made clear pictures covering most of the western United States (illustration, next page) and reaching deep into Mexico.

Spectacular Improvements

Skilled photographers in planes steadily go higher and faster, by night or by day, to turn out farther-ranging and more accurate and detailed shots. United States senators were shown recently an aerial reconnaissance photograph taken 45,000 feet above a Texas city, on which a magnifying glass revealed two balls and a cup on a golf course.

On a vast scale, and in a little less than seven hours, United States Air Force men, traveling at 40,000 feet, have made a continuous coast-to-coast, horizon-to-horizon photo-map of the United States along a 2,700-mile strip, 490 miles wide.

To make such feats possible, photographic equipment has kept pace with the spectacular aircraft that carry it. Among the numerous improvements and developments in the field are huge and intricate cameras with multiple mounts, rotating lenses, continuously unrolling film, and automatic temperature and pressure regulators.

View-finders operating like bombsights, and automatic indicators keep the photo-pilot informed concerning his exact position with regard to the ground. For night photography, flash bombs and flares have 50,000,000 to one billion candle-power intensity, and mechanical devices synchronize the action of the camera shutter with the ignition of the flashes.

Pioneers of 1911

It's a far cry back to the box camera and the simple scenes which enterprising balloonists obtained. One of the earliest such shots was made from a balloon over Boston in 1860.

By 1911, Wilbur Wright and other pioneers were teaming up the airplane and camera to make photographic history. In 1934 and 1935, the stratosphere-balloon flights sponsored by the National Geographic Society and the United States Army Air Corps produced the world's then highest-altitude photographs (at 72,395 feet) as well as the first picture of the earth's curvature and the first natural-color photograph from the stratosphere.

The demands of military intelligence have given impetus to the development of aerial photography. A big step forward during World War I was the making of a reconnaissance photo-map at 11,000 feet. Pieced together into a continuous strip, it accurately mapped an area 18 miles long and three miles wide—a big achievement for that time.

According to official estimates for World War II, aerial photographs

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It is generally believed, however, that the marble used in this construction was not native to the Holy Land, but probably was imported from the Aegean Sea island of Paros, where much of the marble for Athenian sculpture and building was quarried.

NOTE: Israel may be located on the Society's map of Asia and Adjacent Areas, and the Holy Land as it was before the division of Palestine is shown on the map of Bible Lands and the Cradle of Western Civilization.

For additional information, see "Home to the Holy Land," in the *National Geographic Magazine* for December, 1950; "An Archeologist Looks at Palestine," December, 1947; "Palestine Today," October, 1946; "American Fighters Visit Bible Lands," March, 1946; "Geography of the Jordan," December, 1944; "On the Trail of King Solomon's Mines," February, 1944; "Bombs over Bible Lands," August, 1941; "Canoeing Down the River Jordan," December, 1940; "Change Comes to Bible Lands," December, 1938; and "Bedouin Life in Bible Lands," January, 1937.

See also, in the GEOGRAPHIC SCHOOL BULLETINS, January 22, 1951, "Jordan Administers 'Arab Palestine'"; "Dead Sea Is Israel's 'Chemical Gold Mine'," October 3, 1949; and "New Palestine Plan Would Alter Borders," October 18, 1948.

W. ROBERT MOORE

A MODERN ROAD CROSSES THE ANCIENT STONE ROMAN HIGHWAY WEST OF ALEPPO, SYRIA

Paved with a type of limestone found in the rocky vicinity, the ancient road shows few signs of wear. It probably was little used; other roads of Roman times are deeply grooved by chariot wheels. Near here St. Simeon Stylites lived atop a 60-foot pillar for 30 years in the fifth century A.D.

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Bulletin No. 5, February 11, 1952

Sole U.S. Musk Ox Herd Ranges Nunivak Island

THE United States' effort to reestablish the musk ox in its former Alaskan range is proving successful on a small scale.

On Nunivak Island in the Bering Sea off Alaska lives the nation's only herd of the shaggy polar beasts. The latest census shows a head count of 76. When the herd was taken to Nunivak in 1935 it numbered 27 animals, all that were left of 34 captured in Greenland in 1930 and kept on the Alaskan mainland for five years.

Sheep, Not Ox

Skeletons found in northern Alaska prove that musk oxen ranged there less than 150 years ago. It is believed they were killed off by the Eskimos, as were large numbers in northern Canada and Greenland. Now there are fewer than 15,000 of the species in a range running across the top of the western world from Canada's Great Bear Lake to Greenland.

The musk ox is not really an ox at all, but a member of the sheep family. It is known also as *ovibos* and polar ox. The average full-grown animal weighs 600 pounds, is seven and one-half feet from nose to stumpy tail, and stands four and one-half feet high at the shoulder.

Musk oxen are admirably equipped for polar life. They have an outer coat of long, coarse, dark-brown to black hair and a warm undercoating of wool that is shed every spring. They feed in winter on dormant grasses found beneath the snow.

They are armed against their natural enemies—wolves and polar bears—with long curving horns shaped somewhat like a walrus mustache that curves up at the tips.

When a herd is threatened by animal enemies the older bulls form a protective circle around the cows and calves. The bulls stand shoulder to shoulder, presenting their formidable horns to the enemy (illustration, next page).

Not Too Intelligent

Animals attacking the musk-ox circle find it almost impenetrable, but it is a perfect target for man's gunfire, spears, and arrows.

Explorers who have encountered musk oxen do not rate them among the most intelligent of beasts. It takes an ovibos herd several minutes to decide whether to form a circle or to flee at the approach of man. On rare occasions they have been known to charge attackers, but then only after due concentration and in short, ineffective rushes.

Meat of the musk ox is a staple of the far north, and several Arctic explorers have advocated domestication of the animal to supplement man's northern meat and milk supply.

Nunivak is one of the larger islands off Alaska. It extends 40 miles east and west and 25 miles north and south. Central mountains rise to at least 830 feet above the sea. Reindeer herds graze their slopes. Shoals surround the island. Many of the approaches are described by mariners as "foul ground" for ships. The coast is rocky and abrupt, with reddish

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(interpreted by highly trained technicians) provided about four-fifths of all information concerning the enemy's activities.

Meanwhile, air photography's peacetime services—national, civic, scientific, and commercial—have been multiplied and extended. Air surveys are valuable, to list a few outstanding uses, in erosion control, discovery and preservation of natural resources, efficient utilization of farmlands, directing city traffic, archeological exploration, charting the course of an eclipse, or in location of oil wealth.

NOTE: For additional information, see "Seeing the Earth from 80 Miles Up," in the *National Geographic Magazine* for October, 1950; "How We Fight with Photographs," September, 1944; "Aerial Color Photography Becomes a War Weapon," June, 1940; "Observing an Eclipse in Asiatic Russia," February, 1937; "Mapping the Antarctic from the Air," October, 1932 (out of print; refer to your library); and "Color Camera's First Aerial Success," September, 1930.

U. S. NAVY, OFFICIAL-JOHNS HOPKINS UNIVERSITY (APL)

FROM 35 MILES UP, EARTH'S CURVATURE IS SEEN ON THE HORIZON 400 MILES AWAY

A rocket-borne camera took this picture above White Sands Proving Ground, New Mexico. Lava beds look like lakes. In lower right, railroad (dark line) and highway (white) make parallel marks. Clouds, far below, resemble cotton batting.

cliffs in some places rising from 150 feet to 462 feet. The best anchorage and landing is Nash Harbor, on the north coast. Its schoolhouse for the village children makes a prominent landmark. Two other villages cling to the Nunivak coast lines. Fish, birds, and reindeer provide the only foods. A trading ship makes regular visits.

NOTE: Nunivak Island is shown on the Society's map of Canada, Alaska & Greenland.

For additional information on the Alaska area and North Polar regions, see "Alaska's Russian Frontier: Little Diomede," in the *National Geographic Magazine* for April, 1951; "Nomads of the Far North," October, 1949; "Strategic Alaska Looks Ahead," September, 1942; and "Our Air Frontier in Alaska," October, 1940.

See also, in the GEOGRAPHIC SCHOOL BULLETINS, May 7, 1951, " 'Little Iron Curtain' Divides Diomede Isles."

DONALD B. MAC MILLAN

ATTACKING DOGS ON ELLESMERE SEND MUSK OXEN INTO THEIR INSTINCTIVE PROTECTIVE HUDDLE

Cows and calves stand in the center. Horned bulls form the outer circle. They charge with their heads close to the ground, but retreat at once to their place in the ring. Eskimos call Ellesmere Island *Oo-ming-man*, the Land of the Musk Oxen.

National Geographic Society's New Bird Book

Now being distributed to schools, libraries, and individuals over the world is the National Geographic Society's new publication, the 328-page bird book.

Stalking Birds with Color Camera, by Dr. Arthur A. Allen, is a sturdily bound, lavishly illustrated presentation of North America's birds. It contains 331 color pictures showing 266 species. Thirteen chapters describe different types of birds or various aspects of their study and photographing.

Dr. Allen, professor of ornithology at Cornell University and one of the nation's leading bird authorities, has pioneered in the field of high-speed photography. Many of his articles and pictures have appeared in the *National Geographic Magazine.*

Stalking Birds with Color Camera is available only from the National Geographic Society. $7.50 in United States and its possessions; elsewhere, $7.75. Postpaid.